

SEQUENCE LISTING

<110> Immunex Corporation

<120> NEW METALLOPROTEINASE-DISINTEGRIN FAMILY MEMBERS: SVPH
DNAS AND POLYPEPTIDES

<130> 03260.0093-00304

<140>

<141>

<150> 60/116,670

<151> 1999-01-21

<150> 60/138,682

<151> 1999-06-14

<150> 60/155,798

<151> 1999-09-27

<160> 33

<170> PatentIn Ver. 2.1

<210> 1

<211> 129

<212> DNA

<213> Homo sapiens

<220>

<223> "n" at various positions throughout the sequence
may be any nucleotide

<400> 1

```
atTTTTgata ccacagtGac caacacggTc acctaaggTg ttcaattctt tgtagcaagt 60
ctcacttgca gtatttgGcg ctgcacaaa aatcctccta cactgttcan ttgcggTcat 120
gacangctc 129
```

<210> 2

<211> 469

<212> DNA

<213> Homo sapiens

<400> 2

```
tttttgagta agaataggTc atgttttagt aaaacttcca aaagaacaaa acagattctt 60
caaccagga ggacatgtga gtcacaatac cctttaatcc acaggTtgGc tccttggttt 120
ctggaacttt ctgcctcctg taaacgatgt gcgggtggta ccctccctca accagtggat 180
gcttcttcac gggTtcaatg aaaaagtctc catgtggtag ttggaaaaat ccagtcagtc 240
catggcaggc actgaggGct gccgtcccaa ctctggtgGc ctgctgtaga accgtgccac 300
tgagatggca gagggggGca gaggaagcca tcatcttaac atgggagagg ttcccatatc 360
tcttctccat gatgtagcta ttggaaagaa atccttcatt gaccgtcaag ttaaaaaaca 420
ggtccttctc ctctgagaa attctgtagt acaccagtc ctctgagcc 469
```

<210> 3

<211> 1500

<212> DNA

<213> Homo sapiens

```

<400> 3
cacgaggatt tatatcttca aagaaaatat aatgatgctc ttgcatggtc gtttggaaaa 60
gtgtgtttctc tagaatatgc tggatcagtg agtactttac tagatacaaa tacccttgcc 120
cctgctacct ggtctgctca tgagctgggt catgctgtag gaatgtcaca tgatgaacaa 180
tactgccaat gtaggggtag gcctaattgc atcatgggct caggacgcac tgggttttagc 240
aattgcagtt atatctcttt ttttaaacat atctcttcgg gagcaacatg tctaaataat 300
atcccaggac taggttatgt gcttaagaga tgtggaaaca aaattgtgga ggacaatgag 360
gaatgtgatt gtgggtccac agaggagtgt cagaaagatc ggtgttgcca atcaaattgt 420
aagttgcaac caggtgccaa ctgtagcatt ggactttgct gtcattgattg tcgggtttcgt 480
ccatctggat acgtgtgtag gcaggaagga aatgaatgtg accttgacaga gtactgcgac 540
gggaattcaa gttcctgccc aaatgacgtt tataagcagg atggaacccc ttgcaagtat 600
gaaggccggt gtttcaggaa ggggtgcaga tccagatata tgcagtcca aagcattttt 660
ggacctgatg ccatggaggc tcctagttag tgctatgatg cagttaactt aatagggtgat 720
caatttggtg actgtgagat tacaggaatt cgaaatttta aaaagtgtga aagtgcaaat 780
tcaatatgtg gcaggctaca gtgtataaat gttgaaacca tccctgattt gccagagcat 840
acgactataa tttctactca tttacaggca gaaaatctca tgtgctgggg cacaggctat 900
catctatcca tgaaacccat gggaatacct gacctaggta tgataaatga tggcacctcc 960
tgtggagaag gccgggtatg ttttaaaaaa aattgcgtca atagctcagt cctgcagttt 1020
gactgtttgc ctgagaaatg caatacccgg ggtgtttgca acaacagaaa aaactgccac 1080
tgcatgtatg ggtgggcacc tcattctgtg gaggaagtgg ggtatggagg aagcattgac 1140
agtgggcctc caggactgct cagaggggcg attccctcgt caatttgggt tgtgtccatc 1200
ataatgtttc gccttatttt attaatcctt tcagtggttt ttgtgttttt ccggcaagtg 1260
ataggaaacc acttaaaacc caaacaggaa aaaatgccac tatccaaagc aaaaactgaa 1320
caggaagaat ctaaaacaaa aactgtacag gaagaatcta aaacaaaaac tggacaggaa 1380
gaatctgaag caaaaactgg acaggaagaa tctaaagcaa aaactggaca ggaagaatct 1440
aaagcaaaca ttgaaagtaa acgacccaaa gcaaagagtg tcaagaaaca aaaaaagtaa 1500

```

```

<210> 4
<211> 40
<212> PRT
<213> Homo sapiens

```

```

<220>
<223> "Xaa" at various positions throughout the sequence
      may be any amino acid

```

```

<400> 4
Met Thr Ala Xaa Glu Gln Cys Arg Arg Ile Phe Gly Ala Gly Ala Asn
 1             5             10             15

Thr Ala Ser Glu Thr Cys Tyr Lys Glu Leu Asn Thr Leu Gly Asp Arg
      20             25             30

Val Gly His Cys Gly Ile Lys Asn
 35             40

```

```

<210> 5
<211> 123
<212> PRT
<213> Homo sapiens

```

```

<400> 5
Glu Asp Trp Val Tyr Tyr Arg Ile Ser His Glu Glu Lys Asp Leu Phe
 1             5             10             15

Phe Asn Leu Thr Val Asn Glu Gly Phe Leu Ser Asn Ser Tyr Ile Met
      20             25             30

Glu Lys Arg Tyr Gly Asn Leu Ser His Val Lys Met Met Ala Ser Ser

```

35 40 45
 Ala Pro Leu Cys His Leu Ser Gly Thr Val Leu Gln Gln Gly Thr Arg
 50 55 60
 Val Gly Thr Ala Ala Leu Ser Ala Cys His Gly Leu Thr Gly Phe Phe
 65 70 75 80
 Gln Leu Pro His Gly Asp Phe Phe Ile Glu Pro Val Lys Lys His Pro
 85 90 95
 Leu Val Glu Gly Gly Tyr His Pro His Ile Val Tyr Arg Arg Gln Lys
 100 105 110
 Val Pro Glu Thr Lys Glu Pro Thr Cys Gly Leu
 115 120

<210> 6
 <211> 499
 <212> PRT
 <213> Homo sapiens

<400> 6
 His Glu Asp Leu Tyr Leu Gln Arg Lys Tyr Asn Asp Ala Leu Ala Trp
 1 5 10 15
 Ser Phe Gly Lys Val Cys Ser Leu Glu Tyr Ala Gly Ser Val Ser Thr
 20 25 30
 Leu Leu Asp Thr Asn Ile Leu Ala Pro Ala Thr Trp Ser Ala His Glu
 35 40 45
 Leu Gly His Ala Val Gly Met Ser His Asp Glu Gln Tyr Cys Gln Cys
 50 55 60
 Arg Gly Arg Pro Asn Cys Ile Met Gly Ser Gly Arg Thr Gly Phe Ser
 65 70 75 80
 Asn Cys Ser Tyr Ile Ser Phe Phe Lys His Ile Ser Ser Gly Ala Thr
 85 90 95
 Cys Leu Asn Asn Ile Pro Gly Leu Gly Tyr Val Leu Lys Arg Cys Gly
 100 105 110
 Asn Lys Ile Val Glu Asp Asn Glu Glu Cys Asp Cys Gly Ser Thr Glu
 115 120 125
 Glu Cys Gln Lys Asp Arg Cys Cys Gln Ser Asn Cys Lys Leu Gln Pro
 130 135 140
 Gly Ala Asn Cys Ser Ile Gly Leu Cys Cys His Asp Cys Arg Phe Arg
 145 150 155 160
 Pro Ser Gly Tyr Val Cys Arg Gln Glu Gly Asn Glu Cys Asp Leu Ala
 165 170 175
 Glu Tyr Cys Asp Gly Asn Ser Ser Ser Cys Pro Asn Asp Val Tyr Lys
 180 185 190
 Gln Asp Gly Thr Pro Cys Lys Tyr Glu Gly Arg Cys Phe Arg Lys Gly

195					200					205					
Cys	Arg	Ser	Arg	Tyr	Met	Gln	Cys	Gln	Ser	Ile	Phe	Gly	Pro	Asp	Ala
210						215					220				
Met	Glu	Ala	Pro	Ser	Glu	Cys	Tyr	Asp	Ala	Val	Asn	Leu	Ile	Gly	Asp
225					230					235					240
Gln	Phe	Gly	Asn	Cys	Glu	Ile	Thr	Gly	Ile	Arg	Asn	Phe	Lys	Lys	Cys
			245					250						255	
Glu	Ser	Ala	Asn	Ser	Ile	Cys	Gly	Arg	Leu	Gln	Cys	Ile	Asn	Val	Glu
			260					265					270		
Thr	Ile	Pro	Asp	Leu	Pro	Glu	His	Thr	Thr	Ile	Ile	Ser	Thr	His	Leu
		275					280					285			
Gln	Ala	Glu	Asn	Leu	Met	Cys	Trp	Gly	Thr	Gly	Tyr	His	Leu	Ser	Met
	290					295					300				
Lys	Pro	Met	Gly	Ile	Pro	Asp	Leu	Gly	Met	Ile	Asn	Asp	Gly	Thr	Ser
305					310					315					320
Cys	Gly	Glu	Gly	Arg	Val	Cys	Phe	Lys	Lys	Asn	Cys	Val	Asn	Ser	Ser
				325					330					335	
Val	Leu	Gln	Phe	Asp	Cys	Leu	Pro	Glu	Lys	Cys	Asn	Thr	Arg	Gly	Val
			340					345					350		
Cys	Asn	Asn	Arg	Lys	Asn	Cys	His	Cys	Met	Tyr	Gly	Trp	Ala	Pro	Pro
		355					360					365			
Phe	Cys	Glu	Glu	Val	Gly	Tyr	Gly	Gly	Ser	Ile	Asp	Ser	Gly	Pro	Pro
	370					375					380				
Gly	Leu	Leu	Arg	Gly	Ala	Ile	Pro	Ser	Ser	Ile	Trp	Val	Val	Ser	Ile
385					390					395					400
Ile	Met	Phe	Arg	Leu	Ile	Leu	Leu	Ile	Leu	Ser	Val	Val	Phe	Val	Phe
				405					410					415	
Phe	Arg	Gln	Val	Ile	Gly	Asn	His	Leu	Lys	Pro	Lys	Gln	Glu	Lys	Met
			420					425					430		
Pro	Leu	Ser	Lys	Ala	Lys	Thr	Glu	Gln	Glu	Glu	Ser	Lys	Thr	Lys	Thr
		435					440					445			
Val	Gln	Glu	Glu	Ser	Lys	Thr	Lys	Thr	Gly	Gln	Glu	Glu	Ser	Glu	Ala
	450					455					460				
Lys	Thr	Gly	Gln	Glu	Glu	Ser	Lys	Ala	Lys	Thr	Gly	Gln	Glu	Glu	Ser
465					470					475					480
Lys	Ala	Asn	Ile	Glu	Ser	Lys	Arg	Pro	Lys	Ala	Lys	Ser	Val	Lys	Lys
				485					490					495	
Gln	Lys	Lys													

<210> 7

<211> 2301
 <212> DNA
 <213> Homo sapiens

<400> 7

atgaagatgt	tactcctgct	gcattgcctt	gggggtgtttc	tgtcctgttc	tggacacatc	60
caggatgagc	accccccaata	tcacagccct	ccggatgtgg	tgattcctgt	gaggataact	120
ggcaccacca	gaggcatgac	acctccaggc	tggctctcct	atatcctgcc	ctttggaggc	180
cagaaacaca	ttatccacat	aaagggtcaag	aagcttttgt	tttccaaaca	cctccctgtg	240
ttcacctaca	cagaccaggg	tgctatcctt	gaggaccagc	catttgtcca	gaataactgc	300
tactatcatg	gttatgtgga	aggggaccca	gaatccctgg	tttccctcag	tacctgtttt	360
gggggttttc	aaggaatatt	acagataaat	gactttgctt	atgaaatcaa	gcccctagca	420
ttttctacca	cgtttgaaca	tctggtatac	aagatggaca	gtgaggagaa	acaattttca	480
accatgagat	ccggatttat	gcaaaatgaa	ataacatgcc	gaatggaatt	tgaagaaatt	540
gataattcca	ctcagaagca	aagtctctat	gtgggctggg	ggatccattt	taggattgtt	600
gaaattgtag	tcgtcattga	taattatctg	tacattcggt	atgaaaggaa	cgactcaaag	660
ttgctggagg	atctatatgt	tattgttaat	atagtggatt	ccattttgga	tgtcattggg	720
gttaagggtg	tattatttgg	tttgaggatc	tggaccaata	aaaacctcat	tgtagtagat	780
gatgtaagga	aatctgtgca	cctgtattgc	aagtggaagt	cggagaacat	tacgccccgg	840
atgcaacatg	acacctcaca	tcttttcaca	actctaggat	taagagggtt	aagtggcata	900
ggagctttta	ccggattgtg	tacaccacac	cgtagttgtg	caattgttac	tttcatgaac	960
aaaacttttg	gcactttttc	aattgcagtg	gctcatcatc	taggtcataa	tttgggcatg	1020
aaccatgatg	aggatacatg	tcgttgttca	caacctagat	gcataatgca	tgaaggcaac	1080
ccaccaataa	ctaaatttag	caattgtagt	tatgggtgatt	tttgggaata	tactgtagag	1140
aggacaaagt	gtttgcttga	aacagtacac	acaaaggaca	tctttaatgt	gaagcgctgt	1200
gggaatggtg	ttgttgaaga	aggagaagag	tgtgactgtg	gacctttaaa	gcattgtgca	1260
aaagatccct	gctgtctgtc	aaattgcact	ctgactgatg	gttctacttg	tgcttttggg	1320
ctttgttgca	aagactgcaa	gttcctacca	tcagggaag	tgtgtagaaa	ggaggccaat	1380
gaatgtgatc	ttccagagtg	gtgcaatggg	acttcccata	agtgcccaga	tgacttttat	1440
gtggaagatg	gaattccctg	taaggagagg	ggctactgct	atgaaaagag	ctgtcatgac	1500
cgcaatgaac	agtgtaggag	gatttttggg	gcaggcgcaa	atactgcaag	tgagacttgc	1560
tacaaagaat	tgaacacctt	aggtgaccgt	gttggtcact	gtggatcaaa	aaatgctaca	1620
tatataaagt	gtaatatctc	agatgtccag	tgtggaagaa	ttcagtgtga	gaatgtgaca	1680
gaaattccca	atatgagtga	tcatactact	gtgcattggg	ctcgcttcaa	tgacataatg	1740
tgctggagta	ctgattacca	tttggggatg	aagggacctg	atattgggtga	agtgaaagat	1800
ggaacagagt	gtgggtaga	tcatatatgc	atccacaggc	actgtgtcca	tataaccatc	1860
ttgaatagta	attgctcacc	tgcattttgt	aacaagaggg	gcatctgcaa	caataaacat	1920
cactgccatt	gcaattatct	gtgggacctt	cccaactgcc	tgataaaaagg	ctatggagggt	1980
agtgttgaca	gtggccacc	ccctaagaga	aagaagaaaa	agaagtctctg	ttatctgtgt	2040
atattgttgc	ttattgtttt	gtttatttta	ttatgttgtc	tttatcgact	ttgtaaaaaa	2100
agtaaaccaa	taaaaaagca	gcaagatggt	caaactccat	ctgcaaaaaga	agaggaaaaa	2160
attcagcgtc	gacctcatga	gttacctccc	cagagtcaac	cttgggtgat	gccttcccag	2220
agtcaaccct	ctgtgacacc	ctcccagagg	caacctcagt	tgatgccttc	ccagagtcaa	2280
cctcctgtga	cgccttccta	g				2301

<210> 8
 <211> 2364
 <212> DNA
 <213> Homo sapiens

<400> 8

atgaagatgt	tactcctgct	gcattgcctt	gggggtgtttc	tgtcctgttc	tggacacatc	60
caggatgagc	accccccaata	tcacagccct	ccggatgtgg	tgattcctgt	gaggataact	120
ggcaccacca	gaggcatgac	acctccaggc	tggctctcct	atatcctgcc	ctttggaggc	180
cagaaacaca	ttatccacat	aaagggtcaag	aagcttttgt	tttccaaaca	cctccctgtg	240
ttcacctaca	cagaccaggg	tgctatcctt	gaggaccagc	catttgtcca	gaataactgc	300
tactatcatg	gttatgtgga	aggggaccca	gaatccctgg	tttccctcag	tacctgtttt	360
gggggttttc	aaggaatatt	acagataaat	gactttgctt	atgaaatcaa	gcccctagca	420
ttttctacca	cgtttgaaca	tctggtatac	aagatggaca	gtgaggagaa	acaattttca	480
accatgagat	ccggatttat	gcaaaatgaa	ataacatgcc	gaatggaatt	tgaagaaatt	540

gataattcca	ctcagaagca	aagttcttat	gtgggctggt	ggatccattt	taggattggt	600
gaaattgtag	tcgtcattga	taattatctg	tacattcggt	atgaaaggaa	cgactcaaag	660
ttgctggagg	atctatatgt	tattgttaat	atagtggatt	ccatttttga	tgtcattggt	720
gttaaggtgt	tattatttgg	tttggagatc	tggaccaata	aaaacctcat	tgtagtagat	780
gatgtaagga	aatctgtgca	cctgtattgc	aagtggaaagt	cggagaacat	tacgccccgg	840
atgcaacatg	acacctcaca	tcttttcaca	actctaggat	taagagggtt	aagtggcata	900
ggagctttta	gaggaatgtg	tacaccacac	cgtagtgtg	caattgttac	tttcatgaac	960
aaaacttttg	gcactttttc	aattgcagtg	gctcatcatc	taggtcataa	tttgggcatg	1020
aaccatgatg	aggatacatg	tcgttggtca	caacctagat	gcataatgca	tgaaggcaac	1080
ccaccaataa	ctaaatttag	caattgtagt	tatggtgatt	tttgggaata	tactgtagag	1140
aggacaaagt	gtttgcttga	aacagtacac	acaaaggaca	tctttaatgt	gaagcgctgt	1200
gggaatggtg	ttgttgaaga	aggagaagag	tgtgactgtg	gacctttaa	gcattgtgca	1260
aaagatccct	gctgtctgtc	aaattgcact	ctgactgatg	gttctacttg	tgcttttggg	1320
ctttgttgca	aagactgcaa	gttcctacca	tcagggaag	tgtgtagaaa	ggaggtcaat	1380
gaatgtgatc	ttccagagtg	gtgcaatggt	acttcccata	agtgcccgag	tgacttttat	1440
gtggaagatg	gaattccctg	taaggagagg	ggctactgct	atgaaaagag	ctgtcatgac	1500
cgcaatgaac	agtgtaggag	gatttttggg	gcaggcgcaa	atactgcaag	tgagacttgc	1560
tacaaagaat	tgaacacctt	aggtgaccgt	gttggtcact	gtggtatcaa	aaatgctaca	1620
tataaaagt	gtaatatctc	agatgtccag	tgtggaagaa	ttcagtgtga	gaatgtgaca	1680
gaaattccca	atatgagtga	tcatactact	gtgcattggg	ctcgcttcaa	tgacataatg	1740
tgctggagta	ctgattacca	tttggggatg	aagggacctg	atattgggtga	agtgaagat	1800
ggaacagagt	gtgggataga	tcataatgct	atccacaggc	actgtgtcca	tataaccatc	1860
ttgaatagta	attgctcacc	tgcatTTTTgt	aacaagaggg	gcatctgcaa	caataaacat	1920
cactgccatt	gcaattatct	gtgggacctt	cccaactgcc	tgataaaaagg	ctatggaggt	1980
agtgttgaca	gtgggtccacc	ccctaagaga	aagaagaaaa	agaagtctctg	ttatctgtgt	2040
atattgttgc	ttattgtttt	gtttatttta	ttatgttgtc	tttatcgact	ttgtaaaaaa	2100
agtaaaccac	taaaaaagca	gcaagatggt	caaactccat	ctgcaaaaaga	agaggaaaaaa	2160
attcagcgtc	gacctcatga	gttacctccc	cagagtcaac	cttgggtgat	gccttcccag	2220
agtcacacct	ctgtgacgct	ttccagagtg	catcctcagg	tgatgccttc	ccagagtcaa	2280
cctcctcaaa	atttattcct	gttcagcttc	tcaatcagtg	actgtgtgct	aaatttttagg	2340
ctactgtatc	ttcaggccac	ctga				2364

<210> 9
 <211> 2463
 <212> DNA
 <213> Homo sapiens

<400> 9						
atgaagatgt	tactcctgct	gcattgcctt	ggggtgtttc	tgtcctgttc	tggacacatc	60
caggatgagc	acccccaata	tcacagccct	ccggatgtgg	tgattcctgt	gaggataact	120
ggcaccacca	gaggcatgac	acctccaggc	tggctctcct	atatcctgcc	ctttggaggc	180
cagaaacaca	ttatccacat	aaagggtcaag	aagcttttgt	tttccaaaca	cctccctgtg	240
ttcacctaca	cagaccaggg	tgctatcctt	gaggaccagc	catttgtcca	gaataactgc	300
tactatcatg	gttatgtgga	aggggaccca	gaatccctgg	tttccctcag	tacctgtttt	360
gggggttttc	aaggaatatt	acagataaat	gactttgctt	atgaaatcaa	gcccctagca	420
ttttctacca	cgtttgaaca	tctgggtatac	aagatggaca	gtgaggagaa	acaattttca	480
accatgagat	ccggattttat	gcaaaatgaa	ataacatgcc	gaatggaatt	tgaagaaatt	540
gataattcca	ctcagaagca	aagttcttat	gtgggctggt	ggatccattt	taggattggt	600
gaaattgtag	tcgtcattga	taattatctg	tacattcggt	atgaaaggaa	cgactcaaag	660
ttgctggagg	atctatatgt	tattgttaat	atagtggatt	ccatttttga	tgtcattggt	720
gttaaggtgt	tattatttgg	tttggagatc	tggaccaata	aaaacctcat	tgtagtagat	780
gatgtaagga	aatctgtgca	cctgtattgc	aagtggaaagt	cggagaacat	tacgccccgg	840
atgcaacatg	acacctcaca	tcttttcaca	actctaggat	taagagggtt	aagtggcata	900
ggagctttta	gaggaatgtg	tacaccacac	cgtagtgtg	caattgttac	tttcatgaac	960
aaaacttttg	gcactttttc	aattgcagtg	gctcatcatc	taggtcataa	tttgggcatg	1020
aaccatgatg	aggatacatg	tcgttggtca	caacctagat	gcataatgca	tgaaggcaac	1080
ccaccaataa	ctaaatttag	caattgtagt	tatggtgatt	tttgggaata	tactgtagag	1140
aggacaaagt	gtttgcttga	aacagtacac	acaaaggaca	tctttaatgt	gaagcgctgt	1200
gggaatggtg	ttgttgaaga	aggagaagag	tgtgactgtg	gacctttaa	gcattgtgca	1260
aaagatccct	gctgtctgtc	aaattgcact	ctgactgatg	gttctacttg	tgcttttggg	1320

ctttgttgca	aagactgcaa	gttcctacca	tcagggaaag	tgtgtagaaa	ggaggtcaat	1380
gaatgtgatc	ttccagagtg	gtgcaatggg	acttcccata	agtgcccgaga	tgacttttat	1440
gtgggaagatg	gaattccctg	taaggagagg	ggctactgct	atgaaaagag	ctgtcatgac	1500
cgcaatgaac	agtgtaggag	gatttttggg	gcaggcgcaa	atactgcaag	tgagacttgc	1560
tacaaagaat	tgaacacctt	aggtgaccgt	gttggtcact	gtggtatcaa	aaatgctaca	1620
tatataaagt	gtaatatctc	agatgtccag	tgtggaagaa	ttcagtgtga	gaatgtgaca	1680
gaaattccca	atatgagtga	tcatactact	gtgcattggg	ctcgcttcaa	tgacataatg	1740
tgctggagta	ctgattacca	tttggggatg	aagggacctg	atattgggtga	agtgaaagat	1800
ggaacagagt	gtgggataga	tcatatatgc	atccacaggg	actgtgtcca	tataaccatc	1860
ttgaatagta	attgctcacc	tgcatTTTTgt	aacaagaggg	gcattctgcaa	caataaacat	1920
cactgccatt	gcaattatct	gtgggacctc	cccaactgcc	tgataaaaagg	ctatggaggt	1980
agtgttgaca	gtggcccacc	ccctaagaga	aagaagaaaa	agaagtctcg	ttatctgtgt	2040
atattgttgc	ttattgtttt	gtttatTTTta	ttatgttTgc	tttatcgact	ttgtaaaaaa	2100
agtaaaccac	taaaaaagca	gcaagatgtt	caaactccat	ctgcaaaaaga	agaggaaaaaa	2160
attcagcgtc	gacctcatga	gttacctccc	cagagtcaac	cttgggtgat	gccttcccag	2220
agtcaacctc	ctgtgacgcc	ttcccagagt	catcctcggg	tgatgccttc	tcagagtcaa	2280
cctcctgtga	tgcttcccca	gagtcatect	cagttgacgc	cttcccagag	tcaacctcct	2340
gtgatgcctt	cccagagtca	tcctcagttg	acgccttccc	agagtcaacc	tcctgtgaca	2400
ccctcccaga	ggcaacctca	gttgatgcct	tcccagagtc	aacctcctgt	gacgccctcc	2460
tag						2463

<210> 10
 <211> 2373
 <212> DNA
 <213> Homo sapiens

<400> 10						
atgaggtcag	tgcagatctt	cctctcccaa	tgccgtttgc	tccttctact	agttccgaca	60
atgctcctta	agtctcttgg	cgaagatgta	atttttcacc	ctgaagggga	gtttgactcg	120
tatgaagtca	ccattcctga	gaagctgagc	ttccggggag	aggtgcaggg	tgtggtcagt	180
cccgtgtcct	acctactgca	gttaaaaagg	aagaagcacg	tcctccattt	gtggcccaag	240
agactttctgt	tgccccgaca	tctgcgcgtt	ttctccttca	cagaacatgg	ggaactgctg	300
gaggatcatc	cttacataacc	aaaggactgc	aactacatgg	gctccgtgaa	agagtctctg	360
gactctaaag	ctactataag	cacatgcatg	gggggtctcc	gaggtgtatt	taacattgat	420
gccaacacatt	accaatttga	gccccccaag	gcctctccca	gttttgaaca	tgctcgtctat	480
ctcctgaaga	aagagcagtt	tgggaatcag	gtttgtggct	taagtgatga	tgaaatagaa	540
tggcagatgg	ccccttatga	gaataaggcg	aggctaaggg	actttcctgg	atcctataaa	600
cacccaaagt	acttgggaatt	gacccacttc	tttgatcaaa	gtaggtatag	gtttgtgaac	660
aacaatcttt	ctcaagtcac	acatgatgcc	attcttttga	ctgggattat	ggacacctac	720
tttcaagatg	ttcgtatgag	gatacactta	aaggctcctg	aagtatggac	agattttaac	780
aaaatacgcg	ttggatatcc	agagttagct	gaagtttttag	gcagatttgt	aatatataaa	840
aaaagtgtat	taaatgctcg	cctgtcatca	gattggggcac	atttatatct	tcaaagaaaa	900
tataatgatg	ctcttgcacg	gtcgttttga	aaagtgtgtt	ctctagaata	tgctggatca	960
gtgagtactt	tactagatac	aaatatcctt	gccccgtcta	cctggtctgc	tcatagagctg	1020
ggatcatgctg	taggaatgtc	acatgatgaa	caatactgcc	aatgtagggg	taggcctaata	1080
tgcatcatgg	gctcaggacg	cactgggttt	agcaattgca	gttatatctc	tttttttaaa	1140
catatctctt	cgggagcaac	atgtctaaat	aatatcccag	gactagggtta	tgtgcttaag	1200
agatgtggaa	acaaaattgt	ggaggacaat	gaggaatgtg	attgtggttc	cacagaggag	1260
tgtcagaaaag	atcgggtgttg	ccaatcaaat	tgtaagttgc	aaccaggtgc	caactgtagc	1320
attggactttt	gctgtcatga	ttgtcgggtt	cgtccatctg	gatacgtgtg	taggcaggaa	1380
ggaaatgaat	gtgaccttgc	agagtactgc	gacgggaatt	caagttcctg	cccaaatgac	1440
gtttataagc	aggatggaac	cccttgcaag	gttggtttcag	gaagggtgac		1500
agatccagat	atatgcagtg	ccaaagcatt	tttggacctg	atgccatgga	ggctcctagt	1560
gagtgtctatg	atgcagttaa	cttaataggt	gatcaatttg	gtaactgtga	gattacagga	1620
attcgaaatt	ttaaaaagtg	tgaaagtgca	aattcaatat	gtggcaggct	acagtgtata	1680
aatgttgaaa	ccatccctga	tttgccagag	catacgacta	taatttctac	tcatttacag	1740
gcagaaaatc	tcattgtgctg	gggcacaggg	tatcatctat	ccatgaaacc	catgggaata	1800
cctgacctag	gtatgataaa	tgatggcacc	tcctgtggag	aaggccgggt	atgttttaaa	1860
aaaaattgcy	tcaatagctc	agtcctgcag	tttgactgtt	tgccctgagaa	atgcaatacc	1920
cgggggtgttt	gcaacaacag	aaaaaactgc	cactgcatgt	atgggtgggc	acctccattc	1980

tgtgaggaag	tgggggatg	aggaagcatt	gacagtgggc	ctccaggact	gctcagaggg	2040
gcgattccct	cgtcaatttg	ggttgtgtcc	atcataatgt	ttcgccttat	tttattaatc	2100
ctttcagtg	tttttgtgtt	tttccggcaa	gtgataggaa	accacttaaa	acccaaacag	2160
gaaaaaatgc	cactatccaa	agcaaaaact	gaacaggaag	aatctaaaac	aaaaactgta	2220
caggaagaat	ctaaaacaaa	aactggacag	gaagaatctg	aagcaaaaac	tggacaggaa	2280
gaatctaaag	caaaaactgg	acaggaagaa	tctaaagcaa	acattgaaag	taaacgaccc	2340
aaagcaaaga	gtgtcaagaa	acaaaaaaag	ttaa			2373

<210> 11
 <211> 2346
 <212> DNA
 <213> Homo sapiens

<400> 11

atgagggtcag	tgcagatctt	cctctcccaa	tgccgtttgc	tccttctact	agttccgaca	60
atgctcctta	agtctcttgg	cgaagatgta	atttttccacc	ctgaagggga	gtttgactcg	120
tatgaagtca	ccattcctga	gaagctgagc	ttccggggag	aggtgcaggg	tgtgggtcagt	180
cccgtgtcct	acctactgca	gttaaaaggc	aagaagcacg	tcctccattt	gtggcccaag	240
agacttctgt	tgccccgaca	tctgcgcgtt	ttctccttca	cagaacatgg	ggaactgctg	300
gaggatcatc	cttacatacc	aaaggactgc	aactacatgg	gctccgtgaa	agagtctctg	360
gactctaaag	ctactataag	cacatgcatg	gggggtctcc	gaggtgtatt	taacattgat	420
gccaaacatt	accaaattga	gccccctcaag	gcctctccca	gttttgaaca	tgtcgtctat	480
ctcctgaaga	aagagcagtt	tgggaatcag	gtttgtggct	taagtgatga	tgaaatagaa	540
tggcagatgg	ccccttatga	gaataaggcg	aggctaaggg	actttcctgg	atcctataaa	600
cacccaaagt	acttgggaatt	gatcctactc	tttgatcaaa	gtaggtatag	gtttgtgaac	660
aacaatcttt	ctcaagtcac	acatgatgcc	attcttttga	ctgggattat	ggacacctac	720
tttcaagatg	ttcgtatgag	gatacactta	aaggctcttg	aagtatggac	agattttaac	780
aaaatacgcg	ttggatatcc	agagttagct	gaagttttag	gcagatttgt	aatatataaa	840
aaaagtgtat	taaatgctcg	cctgtcatca	gattgggcac	atttatatct	tcaaagaaaa	900
tataatgatg	ctcttgcacg	gtcgttttga	aaagtgtgtt	ctctagaata	tgtctggatca	960
gtgagtactt	tactagatac	aaatatacct	gccccctgta	cctggcctgc	tcagtagctg	1020
ggtcatgctg	taggaatgtc	acatgatgaa	caatactgcc	aatgtagggg	taggcttaac	1080
tgcacatcatg	gctcaggacg	cactgggttt	agcaattgca	gttatatctc	tttttttaaa	1140
catatctctt	cgggagcaac	atgtctaaat	aatatcccag	gactagggtta	tgtgcttaag	1200
agatgtggaa	acaaaattgt	ggaggacaat	gaggaatgtg	actgtgggtc	cacagaggag	1260
tgtcagaaaag	atcgggtgtt	ccaatcaaat	tgtaaagtgc	aaccagggtg	caactgtagc	1320
attggacttt	gctgtcatga	ttgtcgtgtt	cgtccatctg	gatacgtgtg	taggcaggaa	1380
ggaaatgaat	gtgaccttgc	agagtactgc	gacgggaatt	caagttcctg	cccaaattgac	1440
gtttataaag	aggatggaac	cccttgcaag	tatgaaggcc	gttgtttcag	gaaggggtgc	1500
agatccagat	atatgcagtg	ccaaagcatt	tttgacctg	atgccatgga	ggctcctagt	1560
gagtgcctatg	atgcagttaa	cttaatatgt	gatcaatttg	gtaactgtga	gattacagga	1620
attcgaattt	ttaaaaagtg	tgaagtgca	aattcaatat	gtggcaggct	acagtgtata	1680
aatgttgaaa	ccatccctga	tttgccagag	catacgacta	taatttctac	tcattttacag	1740
gcagaaaatc	tcagtgtgctg	gggcacaggc	tatcatctat	ccatgaaacc	catgggaata	1800
cctgacctag	gtatgataaa	tgatggcacc	tcctgtggag	aaggccgggt	atgttttaaa	1860
aaaaattgcg	tcaatagctc	agtcctgcag	tttgactgtt	tgcttgagaa	atgcaatacc	1920
cgggggtgtt	gcaacaacag	aaaaaactgc	cactgcatgt	atgggtgggc	acctccattc	1980
tgtgaggaag	tgggggatg	aggaagcatt	gacagtgggc	ctccaggact	gctcagaggg	2040
gcgattccct	cgtcaatttg	ggttgtgtcc	atcataatgt	ttcgccttat	tttattaatc	2100
ctttcagtg	tttttgtgtt	tttccggcaa	gtgataggaa	accacttaaa	acccaaacag	2160
gaaaaaatgc	cactatccaa	agcaaaaact	gaacaggaag	aatctaaaac	aaaaactgta	2220
caggaagaat	ctaaaacaaa	aactggacag	gaagaatctg	aagcaaaaac	tggacaggaa	2280
gaatctaaag	caaacattga	aagtaaacga	cccaaagcaa	agagtgtcaa	gaaacaaaaa	2340
aagtaa						2346

<210> 12
 <211> 766
 <212> PRT
 <213> Homo sapiens

<400> 12

Met	Lys	Met	Leu	Leu	Leu	Leu	His	Cys	Leu	Gly	Val	Phe	Leu	Ser	Cys	
1				5					10					15		
Ser	Gly	His	Ile	Gln	Asp	Glu	His	Pro	Gln	Tyr	His	Ser	Pro	Pro	Asp	
			20					25					30			
Val	Val	Ile	Pro	Val	Arg	Ile	Thr	Gly	Thr	Thr	Arg	Gly	Met	Thr	Pro	
		35					40					45				
Pro	Gly	Trp	Leu	Ser	Tyr	Ile	Leu	Pro	Phe	Gly	Gly	Gln	Lys	His	Ile	
	50					55					60					
Ile	His	Ile	Lys	Val	Lys	Lys	Leu	Leu	Phe	Ser	Lys	His	Leu	Pro	Val	
65					70					75					80	
Phe	Thr	Tyr	Thr	Asp	Gln	Gly	Ala	Ile	Leu	Glu	Asp	Gln	Pro	Phe	Val	
				85					90						95	
Gln	Asn	Asn	Cys	Tyr	Tyr	His	Gly	Tyr	Val	Glu	Gly	Asp	Pro	Glu	Ser	
			100					105					110			
Leu	Val	Ser	Leu	Ser	Thr	Cys	Phe	Gly	Gly	Phe	Gln	Gly	Ile	Leu	Gln	
		115					120					125				
Ile	Asn	Asp	Phe	Ala	Tyr	Glu	Ile	Lys	Pro	Leu	Ala	Phe	Ser	Thr	Thr	
130						135					140					
Phe	Glu	His	Leu	Val	Tyr	Lys	Met	Asp	Ser	Glu	Glu	Lys	Gln	Phe	Ser	
145					150					155					160	
Thr	Met	Arg	Ser	Gly	Phe	Met	Gln	Asn	Glu	Ile	Thr	Cys	Arg	Met	Glu	
				165					170					175		
Phe	Glu	Glu	Ile	Asp	Asn	Ser	Thr	Gln	Lys	Gln	Ser	Ser	Tyr	Val	Gly	
			180					185					190			
Trp	Trp	Ile	His	Phe	Arg	Ile	Val	Glu	Ile	Val	Val	Val	Ile	Asp	Asn	
		195					200						205			
Tyr	Leu	Tyr	Ile	Arg	Tyr	Glu	Arg	Asn	Asp	Ser	Lys	Leu	Leu	Glu	Asp	
	210					215					220					
Leu	Tyr	Val	Ile	Val	Asn	Ile	Val	Asp	Ser	Ile	Leu	Asp	Val	Ile	Gly	
225					230					235					240	
Val	Lys	Val	Leu	Leu	Phe	Gly	Leu	Glu	Ile	Trp	Thr	Asn	Lys	Asn	Leu	
				245					250					255		
Ile	Val	Val	Asp	Asp	Val	Arg	Lys	Ser	Val	His	Leu	Tyr	Cys	Lys	Trp	
			260					265					270			
Lys	Ser	Glu	Asn	Ile	Thr	Pro	Arg	Met	Gln	His	Asp	Thr	Ser	His	Leu	
		275					280					285				
Phe	Thr	Thr	Leu	Gly	Leu	Arg	Gly	Leu	Ser	Gly	Ile	Gly	Ala	Phe	Arg	
	290					295					300					
Gly	Met	Cys	Thr	Pro	His	Arg	Ser	Cys	Ala	Ile	Val	Thr	Phe	Met	Asn	
305					310					315					320	

Lys Thr Leu Gly Thr Phe Ser Ile Ala Val Ala His His Leu Gly His
 325 330 335
 Asn Leu Gly Met Asn His Asp Glu Asp Thr Cys Arg Cys Ser Gln Pro
 340 345 350
 Arg Cys Ile Met His Glu Gly Asn Pro Pro Ile Thr Lys Phe Ser Asn
 355 360 365
 Cys Ser Tyr Gly Asp Phe Trp Glu Tyr Thr Val Glu Arg Thr Lys Cys
 370 375 380
 Leu Leu Glu Thr Val His Thr Lys Asp Ile Phe Asn Val Lys Arg Cys
 385 390 395 400
 Gly Asn Gly Val Val Glu Glu Gly Glu Glu Cys Asp Cys Gly Pro Leu
 405 410 415
 Lys His Cys Ala Lys Asp Pro Cys Cys Leu Ser Asn Cys Thr Leu Thr
 420 425 430
 Asp Gly Ser Thr Cys Ala Phe Gly Leu Cys Cys Lys Asp Cys Lys Phe
 435 440 445
 Leu Pro Ser Gly Lys Val Cys Arg Lys Glu Val Asn Glu Cys Asp Leu
 450 455 460
 Pro Glu Trp Cys Asn Gly Thr Ser His Lys Cys Pro Asp Asp Phe Tyr
 465 470 475 480
 Val Glu Asp Gly Ile Pro Cys Lys Glu Arg Gly Tyr Cys Tyr Glu Lys
 485 490 495
 Ser Cys His Asp Arg Asn Glu Gln Cys Arg Arg Ile Phe Gly Ala Gly
 500 505 510
 Ala Asn Thr Ala Ser Glu Thr Cys Tyr Lys Glu Leu Asn Thr Leu Gly
 515 520 525
 Asp Arg Val Gly His Cys Gly Ile Lys Asn Ala Thr Tyr Ile Lys Cys
 530 535 540
 Asn Ile Ser Asp Val Gln Cys Gly Arg Ile Gln Cys Glu Asn Val Thr
 545 550 555 560
 Glu Ile Pro Asn Met Ser Asp His Thr Thr Val His Trp Ala Arg Phe
 565 570 575
 Asn Asp Ile Met Cys Trp Ser Thr Asp Tyr His Leu Gly Met Lys Gly
 580 585 590
 Pro Asp Ile Gly Glu Val Lys Asp Gly Thr Glu Cys Gly Ile Asp His
 595 600 605
 Ile Cys Ile His Arg His Cys Val His Ile Thr Ile Leu Asn Ser Asn
 610 615 620
 Cys Ser Pro Ala Phe Cys Asn Lys Arg Gly Ile Cys Asn Asn Lys His
 625 630 635 640

His Cys His Cys Asn Tyr Leu Trp Asp Pro Pro Asn Cys Leu Ile Lys
 645 650 655
 Gly Tyr Gly Gly Ser Val Asp Ser Gly Pro Pro Pro Lys Arg Lys Lys
 660 665 670
 Lys Lys Lys Phe Cys Tyr Leu Cys Ile Leu Leu Leu Ile Val Leu Phe
 675 680 685
 Ile Leu Leu Cys Cys Leu Tyr Arg Leu Cys Lys Lys Ser Lys Pro Ile
 690 695 700
 Lys Lys Gln Gln Asp Val Gln Thr Pro Ser Ala Lys Glu Glu Glu Lys
 705 710 715 720
 Ile Gln Arg Arg Pro His Glu Leu Pro Pro Gln Ser Gln Pro Trp Val
 725 730 735
 Met Pro Ser Gln Ser Gln Pro Pro Val Thr Pro Ser Gln Arg Gln Pro
 740 745 750
 Gln Leu Met Pro Ser Gln Ser Gln Pro Pro Val Thr Pro Ser
 755 760 765

<210> 13
 <211> 787
 <212> PRT
 <213> Homo sapiens

<400> 13
 Met Lys Met Leu Leu Leu Leu His Cys Leu Gly Val Phe Leu Ser Cys
 1 5 10 15
 Ser Gly His Ile Gln Asp Glu His Pro Gln Tyr His Ser Pro Pro Asp
 20 25 30
 Val Val Ile Pro Val Arg Ile Thr Gly Thr Thr Arg Gly Met Thr Pro
 35 40 45
 Pro Gly Trp Leu Ser Tyr Ile Leu Pro Phe Gly Gly Gln Lys His Ile
 50 55 60
 Ile His Ile Lys Val Lys Lys Leu Leu Phe Ser Lys His Leu Pro Val
 65 70 75 80
 Phe Thr Tyr Thr Asp Gln Gly Ala Ile Leu Glu Asp Gln Pro Phe Val
 85 90 95
 Gln Asn Asn Cys Tyr Tyr His Gly Tyr Val Glu Gly Asp Pro Glu Ser
 100 105 110
 Leu Val Ser Leu Ser Thr Cys Phe Gly Gly Phe Gln Gly Ile Leu Gln
 115 120 125
 Ile Asn Asp Phe Ala Tyr Glu Ile Lys Pro Leu Ala Phe Ser Thr Thr
 130 135 140
 Phe Glu His Leu Val Tyr Lys Met Asp Ser Glu Glu Lys Gln Phe Ser
 145 150 155 160

Thr Met Arg Ser Gly Phe Met Gln Asn Glu Ile Thr Cys Arg Met Glu
 165 170 175
 Phe Glu Glu Ile Asp Asn Ser Thr Gln Lys Gln Ser Ser Tyr Val Gly
 180 185 190
 Trp Trp Ile His Phe Arg Ile Val Glu Ile Val Val Val Ile Asp Asn
 195 200 205
 Tyr Leu Tyr Ile Arg Tyr Glu Arg Asn Asp Ser Lys Leu Leu Glu Asp
 210 215 220
 Leu Tyr Val Ile Val Asn Ile Val Asp Ser Ile Leu Asp Val Ile Gly
 225 230 235 240
 Val Lys Val Leu Leu Phe Gly Leu Glu Ile Trp Thr Asn Lys Asn Leu
 245 250 255
 Ile Val Val Asp Asp Val Arg Lys Ser Val His Leu Tyr Cys Lys Trp
 260 265 270
 Lys Ser Glu Asn Ile Thr Pro Arg Met Gln His Asp Thr Ser His Leu
 275 280 285
 Phe Thr Thr Leu Gly Leu Arg Gly Leu Ser Gly Ile Gly Ala Phe Arg
 290 295 300
 Gly Met Cys Thr Pro His Arg Ser Cys Ala Ile Val Thr Phe Met Asn
 305 310 315 320
 Lys Thr Leu Gly Thr Phe Ser Ile Ala Val Ala His His Leu Gly His
 325 330 335
 Asn Leu Gly Met Asn His Asp Glu Asp Thr Cys Arg Cys Ser Gln Pro
 340 345 350
 Arg Cys Ile Met His Glu Gly Asn Pro Pro Ile Thr Lys Phe Ser Asn
 355 360 365
 Cys Ser Tyr Gly Asp Phe Trp Glu Tyr Thr Val Glu Arg Thr Lys Cys
 370 375 380
 Leu Leu Glu Thr Val His Thr Lys Asp Ile Phe Asn Val Lys Arg Cys
 385 390 395 400
 Gly Asn Gly Val Val Glu Glu Gly Glu Glu Cys Asp Cys Gly Pro Leu
 405 410 415
 Lys His Cys Ala Lys Asp Pro Cys Cys Leu Ser Asn Cys Thr Leu Thr
 420 425 430
 Asp Gly Ser Thr Cys Ala Phe Gly Leu Cys Cys Lys Asp Cys Lys Phe
 435 440 445
 Leu Pro Ser Gly Lys Val Cys Arg Lys Glu Val Asn Glu Cys Asp Leu
 450 455 460
 Pro Glu Trp Cys Asn Gly Thr Ser His Lys Cys Pro Asp Asp Phe Tyr
 465 470 475 480
 Val Glu Asp Gly Ile Pro Cys Lys Glu Arg Gly Tyr Cys Tyr Glu Lys

485										490					495				
Ser	Cys	His	Asp	Arg	Asn	Glu	Gln	Cys	Arg	Arg	Ile	Phe	Gly	Ala	Gly				
			500					505					510						
Ala	Asn	Thr	Ala	Ser	Glu	Thr	Cys	Tyr	Lys	Glu	Leu	Asn	Thr	Leu	Gly				
		515					520					525							
Asp	Arg	Val	Gly	His	Cys	Gly	Ile	Lys	Asn	Ala	Thr	Tyr	Ile	Lys	Cys				
		530				535					540								
Asn	Ile	Ser	Asp	Val	Gln	Cys	Gly	Arg	Ile	Gln	Cys	Glu	Asn	Val	Thr				
545					550					555					560				
Glu	Ile	Pro	Asn	Met	Ser	Asp	His	Thr	Thr	Val	His	Trp	Ala	Arg	Phe				
				565					570					575					
Asn	Asp	Ile	Met	Cys	Trp	Ser	Thr	Asp	Tyr	His	Leu	Gly	Met	Lys	Gly				
			580					585					590						
Pro	Asp	Ile	Gly	Glu	Val	Lys	Asp	Gly	Thr	Glu	Cys	Gly	Ile	Asp	His				
		595					600					605							
Ile	Cys	Ile	His	Arg	His	Cys	Val	His	Ile	Thr	Ile	Leu	Asn	Ser	Asn				
610						615					620								
Cys	Ser	Pro	Ala	Phe	Cys	Asn	Lys	Arg	Gly	Ile	Cys	Asn	Asn	Lys	His				
625					630					635					640				
His	Cys	His	Cys	Asn	Tyr	Leu	Trp	Asp	Pro	Pro	Asn	Cys	Leu	Ile	Lys				
				645					650					655					
Gly	Tyr	Gly	Gly	Ser	Val	Asp	Ser	Gly	Pro	Pro	Pro	Lys	Arg	Lys	Lys				
			660					665					670						
Lys	Lys	Lys	Phe	Cys	Tyr	Leu	Cys	Ile	Leu	Leu	Leu	Ile	Val	Leu	Phe				
		675					680					685							
Ile	Leu	Leu	Cys	Cys	Leu	Tyr	Arg	Leu	Cys	Lys	Lys	Ser	Lys	Pro	Ile				
690						695					700								
Lys	Lys	Gln	Gln	Asp	Val	Gln	Thr	Pro	Ser	Ala	Lys	Glu	Glu	Glu	Lys				
705					710					715					720				
Ile	Gln	Arg	Arg	Pro	His	Glu	Leu	Pro	Pro	Gln	Ser	Gln	Pro	Trp	Val				
				725					730					735					
Met	Pro	Ser	Gln	Ser	Gln	Pro	Pro	Val	Thr	Pro	Ser	Gln	Ser	His	Pro				
			740					745					750						
Gln	Val	Met	Pro	Ser	Gln	Ser	Gln	Pro	Pro	Gln	Asn	Leu	Phe	Leu	Phe				
		755						760				765							
Ser	Phe	Ser	Ile	Ser	Asp	Cys	Val	Leu	Asn	Phe	Arg	Leu	Leu	Tyr	Leu				
		770				775					780								
Gln	Ala	Thr																	
785																			

<210> 14

<213> Homo sapiens

Met Lys Met Leu Leu Leu His Cys Leu Gly Val Phe Leu Ser Cys
1 5 10 15

Ser Gly His Ile Gln Asp Glu His Pro Gln Tyr His Ser Pro Pro Asp
20 25 30

Val Val Ile Pro Val Arg Ile Thr Gly Thr Thr Arg Gly Met Thr Pro
35 40 45

Pro Gly Trp Leu Ser Tyr Ile Leu Pro Phe Gly Gly Gln Lys His Ile
50 55 60

Ile His Ile Lys Val Lys Lys Leu Leu Phe Ser Lys His Leu Pro Val
65 70 75 80

Phe Thr Tyr Thr Asp Gln Gly Ala Ile Leu Glu Asp Gln Pro Phe Val
85 90 95

Gln Asn Asn Cys Tyr Tyr His Gly Tyr Val Glu Gly Asp Pro Glu Ser
100 105 110

Leu Val Ser Leu Ser Thr Cys Phe Gly Gly Phe Gln Gly Ile Leu Gln
115 120 125

Ile Asn Asp Phe Ala Tyr Glu Ile Lys Pro Leu Ala Phe Ser Thr Thr
130 135 140

Phe Glu His Leu Val Tyr Lys Met Asp Ser Glu Glu Lys Gln Phe Ser
145 150 155 160

Thr Met Arg Ser Gly Phe Met Gln Asn Glu Ile Thr Cys Arg Met Glu
165 170 175

Phe Glu Glu Ile Asp Asn Ser Thr Gln Lys Gln Ser Ser Tyr Val Gly
180 185 190

Trp Trp Ile His Phe Arg Ile Val Glu Ile Val Val Val Ile Asp Asn
195 200 205

Tyr Leu Tyr Ile Arg Tyr Glu Arg Asn Asp Ser Lys Leu Leu Glu Asp
210 215 220

Leu Tyr Val Ile Val Asn Ile Val Asp Ser Ile Leu Asp Val Ile Gly
225 230 235 240

Val Lys Val Leu Leu Phe Gly Leu Glu Ile Trp Thr Asn Lys Asn Leu
245 250 255

Ile Val Val Asp Asp Val Arg Lys Ser Val His Leu Tyr Cys Lys Trp
260 265 270

Lys Ser Glu Asn Ile Thr Pro Arg Met Gln His Asp Thr Ser His Leu
275 280 285

Phe Thr Thr Leu Gly Leu Arg Gly Leu Ser Gly Ile Gly Ala Phe Arg
290 295 300

Gly Met Cys Thr Pro His Arg Ser Cys Ala Ile Val Thr Phe Met Asn
 305 310 315 320
 Lys Thr Leu Gly Thr Phe Ser Ile Ala Val Ala His His Leu Gly His
 325 330 335
 Asn Leu Gly Met Asn His Asp Glu Asp Thr Cys Arg Cys Ser Gln Pro
 340 345 350
 Arg Cys Ile Met His Glu Gly Asn Pro Pro Ile Thr Lys Phe Ser Asn
 355 360 365
 Cys Ser Tyr Gly Asp Phe Trp Glu Tyr Thr Val Glu Arg Thr Lys Cys
 370 375 380
 Leu Leu Glu Thr Val His Thr Lys Asp Ile Phe Asn Val Lys Arg Cys
 385 390 395 400
 Gly Asn Gly Val Val Glu Glu Gly Glu Glu Cys Asp Cys Gly Pro Leu
 405 410 415
 Lys His Cys Ala Lys Asp Pro Cys Cys Leu Ser Asn Cys Thr Leu Thr
 420 425 430
 Asp Gly Ser Thr Cys Ala Phe Gly Leu Cys Cys Lys Asp Cys Lys Phe
 435 440 445
 Leu Pro Ser Gly Lys Val Cys Arg Lys Glu Val Asn Glu Cys Asp Leu
 450 455 460
 Pro Glu Trp Cys Asn Gly Thr Ser His Lys Cys Pro Asp Asp Phe Tyr
 465 470 475 480
 Val Glu Asp Gly Ile Pro Cys Lys Glu Arg Gly Tyr Cys Tyr Glu Lys
 485 490 495
 Ser Cys His Asp Arg Asn Glu Gln Cys Arg Arg Ile Phe Gly Ala Gly
 500 505 510
 Ala Asn Thr Ala Ser Glu Thr Cys Tyr Lys Glu Leu Asn Thr Leu Gly
 515 520 525
 Asp Arg Val Gly His Cys Gly Ile Lys Asn Ala Thr Tyr Ile Lys Cys
 530 535 540
 Asn Ile Ser Asp Val Gln Cys Gly Arg Ile Gln Cys Glu Asn Val Thr
 545 550 555 560
 Glu Ile Pro Asn Met Ser Asp His Thr Thr Val His Trp Ala Arg Phe
 565 570 575
 Asn Asp Ile Met Cys Trp Ser Thr Asp Tyr His Leu Gly Met Lys Gly
 580 585 590
 Pro Asp Ile Gly Glu Val Lys Asp Gly Thr Glu Cys Gly Ile Asp His
 595 600 605
 Ile Cys Ile His Arg His Cys Val His Ile Thr Ile Leu Asn Ser Asn
 610 615 620

Cys Ser Pro Ala Phe Cys Asn Lys Arg Gly Ile Cys Asn Asn Lys His
 625 630 635 640
 His Cys His Cys Asn Tyr Leu Trp Asp Pro Pro Asn Cys Leu Ile Lys
 645 650 655
 Gly Tyr Gly Gly Ser Val Asp Ser Gly Pro Pro Pro Lys Arg Lys Lys
 660 665 670
 Lys Lys Lys Phe Cys Tyr Leu Cys Ile Leu Leu Leu Ile Val Leu Phe
 675 680 685
 Ile Leu Leu Cys Cys Leu Tyr Arg Leu Cys Lys Lys Ser Lys Pro Ile
 690 695 700
 Lys Lys Gln Gln Asp Val Gln Thr Pro Ser Ala Lys Glu Glu Glu Lys
 705 710 715 720
 Ile Gln Arg Arg Pro His Glu Leu Pro Pro Gln Ser Gln Pro Trp Val
 725 730 735
 Met Pro Ser Gln Ser Gln Pro Pro Val Thr Pro Ser Gln Ser His Pro
 740 745 750
 Arg Val Met Pro Ser Gln Ser Gln Pro Pro Val Met Pro Ser Gln Ser
 755 760 765
 His Pro Gln Leu Thr Pro Ser Gln Ser Gln Pro Pro Val Met Pro Ser
 770 775 780
 Gln Ser His Pro Gln Leu Thr Pro Ser Gln Ser Gln Pro Pro Val Thr
 785 790 795 800
 Pro Ser Gln Arg Gln Pro Gln Leu Met Pro Ser Gln Ser Gln Pro Pro
 805 810 815
 Val Thr Pro Ser
 820

<210> 15
 <211> 790
 <212> PRT
 <213> Homo sapiens

<400> 15
 Met Arg Ser Val Gln Ile Phe Leu Ser Gln Cys Arg Leu Leu Leu Leu
 1 5 10 15
 Leu Val Pro Thr Met Leu Leu Lys Ser Leu Gly Glu Asp Val Ile Phe
 20 25 30
 His Pro Glu Gly Glu Phe Asp Ser Tyr Glu Val Thr Ile Pro Glu Lys
 35 40 45
 Leu Ser Phe Arg Gly Glu Val Gln Gly Val Val Ser Pro Val Ser Tyr
 50 55 60
 Leu Leu Gln Leu Lys Gly Lys Lys His Val Leu His Leu Trp Pro Lys
 65 70 75 80

Arg Leu Leu Leu Pro Arg His Leu Arg Val Phe Ser Phe Thr Glu His
 85 90 95
 Gly Glu Leu Leu Glu Asp His Pro Tyr Ile Pro Lys Asp Cys Asn Tyr
 100 105 110
 Met Gly Ser Val Lys Glu Ser Leu Asp Ser Lys Ala Thr Ile Ser Thr
 115 120 125
 Cys Met Gly Gly Leu Arg Gly Val Phe Asn Ile Asp Ala Lys His Tyr
 130 135 140
 Gln Ile Glu Pro Leu Lys Ala Ser Pro Ser Phe Glu His Val Val Tyr
 145 150 155 160
 Leu Leu Lys Lys Glu Gln Phe Gly Asn Gln Val Cys Gly Leu Ser Asp
 165 170 175
 Asp Glu Ile Glu Trp Gln Met Ala Pro Tyr Glu Asn Lys Ala Arg Leu
 180 185 190
 Arg Asp Phe Pro Gly Ser Tyr Lys His Pro Lys Tyr Leu Glu Leu Ile
 195 200 205
 Leu Leu Phe Asp Gln Ser Arg Tyr Arg Phe Val Asn Asn Asn Leu Ser
 210 215 220
 Gln Val Ile His Asp Ala Ile Leu Leu Thr Gly Ile Met Asp Thr Tyr
 225 230 235 240
 Phe Gln Asp Val Arg Met Arg Ile His Leu Lys Ala Leu Glu Val Trp
 245 250 255
 Thr Asp Phe Asn Lys Ile Arg Val Gly Tyr Pro Glu Leu Ala Glu Val
 260 265 270
 Leu Gly Arg Phe Val Ile Tyr Lys Lys Ser Val Leu Asn Ala Arg Leu
 275 280 285
 Ser Ser Asp Trp Ala His Leu Tyr Leu Gln Arg Lys Tyr Asn Asp Ala
 290 295 300
 Leu Ala Trp Ser Phe Gly Lys Val Cys Ser Leu Glu Tyr Ala Gly Ser
 305 310 315 320
 Val Ser Thr Leu Leu Asp Thr Asn Ile Leu Ala Pro Ala Thr Trp Ser
 325 330 335
 Ala His Glu Leu Gly His Ala Val Gly Met Ser His Asp Glu Gln Tyr
 340 345 350
 Cys Gln Cys Arg Gly Arg Pro Asn Cys Ile Met Gly Ser Gly Arg Thr
 355 360 365
 Gly Phe Ser Asn Cys Ser Tyr Ile Ser Phe Phe Lys His Ile Ser Ser
 370 375 380
 Gly Ala Thr Cys Leu Asn Asn Ile Pro Gly Leu Gly Tyr Val Leu Lys
 385 390 395 400
 Arg Cys Gly Asn Lys Ile Val Glu Asp Asn Glu Glu Cys Asp Cys Gly

405										410					415				
Ser	Thr	Glu	Glu	Cys	Gln	Lys	Asp	Arg	Cys	Cys	Gln	Ser	Asn	Cys	Lys				
			420					425					430						
Leu	Gln	Pro	Gly	Ala	Asn	Cys	Ser	Ile	Gly	Leu	Cys	Cys	His	Asp	Cys				
		435					440					445							
Arg	Phe	Arg	Pro	Ser	Gly	Tyr	Val	Cys	Arg	Gln	Glu	Gly	Asn	Glu	Cys				
	450					455					460								
Asp	Leu	Ala	Glu	Tyr	Cys	Asp	Gly	Asn	Ser	Ser	Ser	Cys	Pro	Asn	Asp				
465					470					475					480				
Val	Tyr	Lys	Gln	Asp	Gly	Thr	Pro	Cys	Lys	Tyr	Glu	Gly	Arg	Cys	Phe				
			485						490					495					
Arg	Lys	Gly	Cys	Arg	Ser	Arg	Tyr	Met	Gln	Cys	Gln	Ser	Ile	Phe	Gly				
			500					505					510						
Pro	Asp	Ala	Met	Glu	Ala	Pro	Ser	Glu	Cys	Tyr	Asp	Ala	Val	Asn	Leu				
		515					520					525							
Ile	Gly	Asp	Gln	Phe	Gly	Asn	Cys	Glu	Ile	Thr	Gly	Ile	Arg	Asn	Phe				
	530					535					540								
Lys	Lys	Cys	Glu	Ser	Ala	Asn	Ser	Ile	Cys	Gly	Arg	Leu	Gln	Cys	Ile				
545					550					555					560				
Asn	Val	Glu	Thr	Ile	Pro	Asp	Leu	Pro	Glu	His	Thr	Thr	Ile	Ile	Ser				
				565					570					575					
Thr	His	Leu	Gln	Ala	Glu	Asn	Leu	Met	Cys	Trp	Gly	Thr	Gly	Tyr	His				
			580					585					590						
Leu	Ser	Met	Lys	Pro	Met	Gly	Ile	Pro	Asp	Leu	Gly	Met	Ile	Asn	Asp				
		595					600					605							
Gly	Thr	Ser	Cys	Gly	Glu	Gly	Arg	Val	Cys	Phe	Lys	Lys	Asn	Cys	Val				
	610					615					620								
Asn	Ser	Ser	Val	Leu	Gln	Phe	Asp	Cys	Leu	Pro	Glu	Lys	Cys	Asn	Thr				
625					630					635					640				
Arg	Gly	Val	Cys	Asn	Asn	Arg	Lys	Asn	Cys	His	Cys	Met	Tyr	Gly	Trp				
				645					650					655					
Ala	Pro	Pro	Phe	Cys	Glu	Glu	Val	Gly	Tyr	Gly	Gly	Ser	Ile	Asp	Ser				
			660					665					670						
Gly	Pro	Pro	Gly	Leu	Leu	Arg	Gly	Ala	Ile	Pro	Ser	Ser	Ile	Trp	Val				
			675				680						685						
Val	Ser	Ile	Ile	Met	Phe	Arg	Leu	Ile	Leu	Leu	Ile	Leu	Ser	Val	Val				
	690					695					700								
Phe	Val	Phe	Phe	Arg	Gln	Val	Ile	Gly	Asn	His	Leu	Lys	Pro	Lys	Gln				
705					710				715						720				
Glu	Lys	Met	Pro	Leu	Ser	Lys	Ala	Lys	Thr	Glu	Gln	Glu	Glu	Ser	Lys				
				725					730					735					

Thr Lys Thr Val Gln Glu Glu Ser Lys Thr Lys Thr Gly Gln Glu Glu
 740 745 750
 Ser Glu Ala Lys Thr Gly Gln Glu Glu Ser Lys Ala Lys Thr Gly Gln
 755 760 765
 Glu Glu Ser Lys Ala Asn Ile Glu Ser Lys Arg Pro Lys Ala Lys Ser
 770 775 780
 Val Lys Lys Gln Lys Lys
 785 790

<210> 16
 <211> 781
 <212> PRT
 <213> Homo sapiens

<400> 16
 Met Arg Ser Val Gln Ile Phe Leu Ser Gln Cys Arg Leu Leu Leu Leu
 1 5 10 15
 Leu Val Pro Thr Met Leu Leu Lys Ser Leu Gly Glu Asp Val Ile Phe
 20 25 30
 His Pro Glu Gly Glu Phe Asp Ser Tyr Glu Val Thr Ile Pro Glu Lys
 35 40 45
 Leu Ser Phe Arg Gly Glu Val Gln Gly Val Val Ser Pro Val Ser Tyr
 50 55 60
 Leu Leu Gln Leu Lys Gly Lys Lys His Val Leu His Leu Trp Pro Lys
 65 70 75 80
 Arg Leu Leu Leu Pro Arg His Leu Arg Val Phe Ser Phe Thr Glu His
 85 90 95
 Gly Glu Leu Leu Glu Asp His Pro Tyr Ile Pro Lys Asp Cys Asn Tyr
 100 105 110
 Met Gly Ser Val Lys Glu Ser Leu Asp Ser Lys Ala Thr Ile Ser Thr
 115 120 125
 Cys Met Gly Gly Leu Arg Gly Val Phe Asn Ile Asp Ala Lys His Tyr
 130 135 140
 Gln Ile Glu Pro Leu Lys Ala Ser Pro Ser Phe Glu His Val Val Tyr
 145 150 155 160
 Leu Leu Lys Lys Glu Gln Phe Gly Asn Gln Val Cys Gly Leu Ser Asp
 165 170 175
 Asp Glu Ile Glu Trp Gln Met Ala Pro Tyr Glu Asn Lys Ala Arg Leu
 180 185 190
 Arg Asp Phe Pro Gly Ser Tyr Lys His Pro Lys Tyr Leu Glu Leu Ile
 195 200 205
 Leu Leu Phe Asp Gln Ser Arg Tyr Arg Phe Val Asn Asn Asn Leu Ser
 210 215 220

Gln Val Ile His Asp Ala Ile Leu Leu Thr Gly Ile Met Asp Thr Tyr
 225 230 235 240
 Phe Gln Asp Val Arg Met Arg Ile His Leu Lys Ala Leu Glu Val Trp
 245 250 255
 Thr Asp Phe Asn Lys Ile Arg Val Gly Tyr Pro Glu Leu Ala Glu Val
 260 265 270
 Leu Gly Arg Phe Val Ile Tyr Lys Lys Ser Val Leu Asn Ala Arg Leu
 275 280 285
 Ser Ser Asp Trp Ala His Leu Tyr Leu Gln Arg Lys Tyr Asn Asp Ala
 290 295 300
 Leu Ala Trp Ser Phe Gly Lys Val Cys Ser Leu Glu Tyr Ala Gly Ser
 305 310 315 320
 Val Ser Thr Leu Leu Asp Thr Asn Ile Leu Ala Pro Ala Thr Trp Pro
 325 330 335
 Ala His Glu Leu Gly His Ala Val Gly Met Ser His Asp Glu Gln Tyr
 340 345 350
 Cys Gln Cys Arg Gly Arg Leu Asn Cys Ile Met Gly Ser Gly Arg Thr
 355 360 365
 Gly Phe Ser Asn Cys Ser Tyr Ile Ser Phe Phe Lys His Ile Ser Ser
 370 375 380
 Gly Ala Thr Cys Leu Asn Asn Ile Pro Gly Leu Gly Tyr Val Leu Lys
 385 390 395 400
 Arg Cys Gly Asn Lys Ile Val Glu Asp Asn Glu Glu Cys Asp Cys Gly
 405 410 415
 Ser Thr Glu Glu Cys Gln Lys Asp Arg Cys Cys Gln Ser Asn Cys Lys
 420 425 430
 Leu Gln Pro Gly Ala Asn Cys Ser Ile Gly Leu Cys Cys His Asp Cys
 435 440 445
 Arg Phe Arg Pro Ser Gly Tyr Val Cys Arg Gln Glu Gly Asn Glu Cys
 450 455 460
 Asp Leu Ala Glu Tyr Cys Asp Gly Asn Ser Ser Ser Cys Pro Asn Asp
 465 470 475 480
 Val Tyr Lys Gln Asp Gly Thr Pro Cys Lys Tyr Glu Gly Arg Cys Phe
 485 490 495
 Arg Lys Gly Cys Arg Ser Arg Tyr Met Gln Cys Gln Ser Ile Phe Gly
 500 505 510
 Pro Asp Ala Met Glu Ala Pro Ser Glu Cys Tyr Asp Ala Val Asn Leu
 515 520 525
 Ile Gly Asp Gln Phe Gly Asn Cys Glu Ile Thr Gly Ile Arg Asn Phe
 530 535 540

Lys Lys Cys Glu Ser Ala Asn Ser Ile Cys Gly Arg Leu Gln Cys Ile
 545 550 555 560
 Asn Val Glu Thr Ile Pro Asp Leu Pro Glu His Thr Thr Ile Ile Ser
 565 570 575
 Thr His Leu Gln Ala Glu Asn Leu Met Cys Trp Gly Thr Gly Tyr His
 580 585 590
 Leu Ser Met Lys Pro Met Gly Ile Pro Asp Leu Gly Met Ile Asn Asp
 595 600 605
 Gly Thr Ser Cys Gly Glu Gly Arg Val Cys Phe Lys Lys Asn Cys Val
 610 615 620
 Asn Ser Ser Val Leu Gln Phe Asp Cys Leu Pro Glu Lys Cys Asn Thr
 625 630 635 640
 Arg Gly Val Cys Asn Asn Arg Lys Asn Cys His Cys Met Tyr Gly Trp
 645 650 655
 Ala Pro Pro Phe Cys Glu Glu Val Gly Tyr Gly Gly Ser Ile Asp Ser
 660 665 670
 Gly Pro Pro Gly Leu Leu Arg Gly Ala Ile Pro Ser Ser Ile Trp Val
 675 680 685
 Val Ser Ile Ile Met Phe Arg Leu Ile Leu Leu Ile Leu Ser Val Val
 690 695 700
 Phe Val Phe Phe Arg Gln Val Ile Gly Asn His Leu Lys Pro Lys Gln
 705 710 715 720
 Glu Lys Met Pro Leu Ser Lys Ala Lys Thr Glu Gln Glu Glu Ser Lys
 725 730 735
 Thr Lys Thr Val Gln Glu Glu Ser Lys Thr Lys Thr Gly Gln Glu Glu
 740 745 750
 Ser Glu Ala Lys Thr Gly Gln Glu Glu Ser Lys Ala Asn Ile Glu Ser
 755 760 765
 Lys Arg Pro Lys Ala Lys Ser Val Lys Lys Gln Lys Lys
 770 775 780

<210> 17

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:
 oligonucleotide

<400> 17

cacctaagggt gttcaattct ttg

23

<210> 18

<211> 23

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:
 oligonucleotide

 <400> 18
 caaataactgc aagtgagact tgc 23

 <210> 19
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:
 oligonucleotide

 <400> 19
 tgcacaacta cgtgtggtgt accc 24

 <210> 20
 <211> 26
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:
 oligonucleotide

 <400> 20
 gagccactgc aattgaaaaa gtgccc 26

 <210> 21
 <211> 21
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:
 oligonucleotide

 <400> 21
 aatgatgctc ttgcatggtc g 21

 <210> 22
 <211> 26
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:
 oligonucleotide

 <400> 22
 ctttcacgga gcccattag ttgcag 26

<210> 23
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
oligonucleotide

<400> 23
tgaaggagaa aacgcgcaga tgtcgg 26

<210> 24
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 24
tcgataatgc atgaaggcaa cccacc 26

<210> 25
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 25
caagtctcac ttgcagtatt tgcgcc 26

<210> 26
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 26
gccactgcat gtatgggtg 19

<210> 27
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 27
gacactcttt gctttgggtc g 21

<210> 28
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: peptide
fragment

<400> 28
Asp Tyr Lys Asp Asp Asp Asp Lys
1 5

<210> 29
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: peptide
fragment

<400> 29
Pro Asp Val Ala Ser Leu Arg Gln Gln Val Glu Ala Leu Gln Gly Gln
1 5 10 15

Val Gln His Leu Gln Ala Ala Phe Ser Gln Tyr
20 25

<210> 30
<211> 33
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: peptide
fragment

<400> 30
Arg Met Lys Gln Ile Glu Asp Lys Ile Glu Glu Ile Leu Ser Lys Ile
1 5 10 15

Tyr His Ile Glu Asn Glu Ile Ala Arg Ile Lys Lys Leu Ile Gly Glu
20 25 30

Arg

<210> 31
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: peptide
fragment

<220>
<223> "Xaa" at various positions throughout the sequence
may be any amino acid

<400> 31
His Glu Xaa Xaa His Xaa Xaa Gly Xaa Xaa His Asp
1 5 10

<210> 32
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: peptide
fragment

<400> 32
Ser Gln Ser Gln Pro Pro Leu Met Pro
1 5

<210> 33
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: peptide
fragment

<220>
<223> "Xaa" at position 6 may be Thr or Ala

<400> 33
Gln Glu Glu Ser Lys Xaa Lys Thr Gly
1 5